Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A sonic actuator comprising:

a multi-layer membrane including an elastomeric dielectric polymer layer having a first surface and a second surface;

a first compliant electrode layer contacting said first surface;

and a second compliant electrode layer contacting said second surface;

and a support structure in contact with the multi-layer membrane,

wherein the polymer layer is arranged in a manner which causes a portion of the polymer layer to deform in response to a change in electric field that is applied via at least one of the first compliant electrode layer or the second compliant electrode layer and wherein a portion of the polymer layer is capable of a strain of greater than 25% between a first position of the elastomeric dielectric polymer layer with a first area and a second position of the elastomeric dielectric polymer layer with a second area.

2. (Previously Presented) A sonic actuator as recited in claim 1 wherein said dielectric polymer is selected from the group consisting essentially of silicone, fluorosilicone, fluoroelastomer, natural rubber, polybutadiene, nitrile rubber, isoprene, and ethylene propylene diene.

3. (Currently Amended) A sonic actuator as recited in claim 1 wherein said compliant electrode layer is made from the group consisting essentially of graphite, carbon, and conductive polymers~~, and thin metal films~~.

4. (Original) A sonic actuator as recited in claim 1 wherein said support structure is a grid having a plurality of apertures.

5. (Previously Presented) A sonic actuator as recited in claim 4 wherein said multi-layer membrane is biased such that portions of said membrane bulge at least some of said apertures.

6. (Previously Presented) A sonic actuator as recited in claim 5 wherein said multi-layer membrane is biased such that portions of said membrane bulge in a first direction at least some of said apertures.

7. (Previously Presented) A sonic actuator as recited in claim 5 wherein said multi-layer membrane is biased such that portions of said membrane bulge in a first direction at some of said apertures and such that portions of said membrane bulge in a second direction at others of said apertures.

8. (Previously Presented) A sonic actuator as recited in claim 6 wherein said membrane is biased by a gaseous pressure that is greater than atmospheric pressure.

9. (Previously Presented) A sonic actuator as recited in claim 6 wherein said membrane is biased by a gaseous pressure that is less than atmospheric pressure.

10. (Previously Presented) A sonic actuator as recited in claim 6 wherein said membrane is biased by a soft foam material.

11. (Original) A sonic actuator as recited in claim 10 wherein said soft foam material is a closed-cell foam with an average cell diameter substantially less than a diameter of said apertures.

12. (Previously Presented) A sonic actuator as recited in claim 7 wherein said membrane is biased by a gaseous pressure that is greater than atmospheric pressure where said membrane is bulging in a first direction, and is biased by a gaseous pressure that is less than atmospheric pressure where said membrane is bulging in a second direction.

13. (Previously Presented) A sonic actuator as recited in claim 5 wherein said support structure is substantially planar proximate to said apertures and wherein said bulging portion of said membrane exhibit an out-of-plane deflection.

14. (Previously Presented) A sonic actuator as recited in claim 1 wherein said multi-layer membrane comprises a sandwich structure having a plurality of layer of elastomeric dielectric polymers alternating with a plurality of layers of compliant electrodes.

15. (Original) A sonic actuator as recited in claim 1 further comprising a square root diver coupled to said first compliant electrode and to said second compliant electrode.

16. (Original) A sonic actuator as recited in claim 15 wherein said square root driver includes a summer adding a lower power input signal to an offset voltage and a square root generator coupled to an output of said summer.

17. (Original) A sonic actuator as recited in claim 16 further comprising a filter coupled to an output of said square root generator.

18. (Original) A sonic actuator as recited in claim 17 further comprising an amplifier coupled to an output of said filter to provide a signal to drive said multi-layer membrane.

19. (Withdrawn) A sonic actuator as recited in claim 1 further comprising: a sensor coupled to the sonic actuator adapted for measuring one or more of a property of the sonic actuator or a property of the environment in which the sonic actuator is operating.

20. (Withdrawn) A sonic actuator as recited in claim 19, wherein property of the sonic actuator or the property of the environment in which the sonic actuator is operating measured by the sensor is for controlling operation of the sonic actuator.

21. (Previously Presented) A sonic actuator as recited in claim 1, wherein the polymer layer is transparent.

22. (Previously Presented) A sonic actuator as recited in claim 1, wherein the sonic actuator is one of rectangularly shaped, spherically shaped or cylindrically shaped.

23. (Withdrawn) A sonic actuator as recited in claim 1, wherein a motion generated by the sonic actuator over time is for canceling noise or vibration.

24. (Withdrawn) A sonic actuator as recited in claim 1, wherein a force gradient is applied across the first surface and the second surface for biasing the polymer layer to deform in a particular direction.

25. (Withdrawn) A sonic actuator as recited in claim 24, wherein the force gradient is generated by applying an unequal gas pressure across the first surface and the second surface.

26. (Withdrawn) A sonic actuator as recited in claim 24, wherein the force gradient is generated by placing a material against one of the first surface and the second surface.

27. (Previously Presented) A sonic actuator as recited in claim 1, wherein a membrane thickness of the polymer layer is less than about 100 micrometers.

28. (Withdrawn) A sonic actuator as recited in claim 1, wherein the polymer layer further comprises a plurality of active areas that are separately controlled.

29. (Withdrawn) A sonic actuator as recited in claim 28, wherein at least two of the active areas are of different sizes.

30. (Previously Presented) A sonic actuator as recited in claim 4, wherein the apertures are one of rectangularly-shaped, square-shaped or circularly shaped.

31. (Withdrawn) A sonic actuator as recited in claim 1, further comprising a plenum for maintaining a gas pressure on the polymer layer.

32. (Withdrawn) A sonic actuator as recited in claim 1, further comprising a microcontroller for controlling the electric field applied to the polymer layer.

33. (Previously Presented) A sonic actuator as recited in claim 1, wherein said sonic actuator is a component of one of a speaker or an automobile.

Respectfully submitted,

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